



Improving Medical  
Communication  
through Wikipedia

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# Disclosures

- No relevant financial interests pertaining to the material discussed in the presentation

# Agenda



Brief Overview of Wiki Med



Wikipedia and Pheochromocytoma



Data from Pheochromocytoma Update



CFI: Increasing Medical Student Interest in Endocrinology



Questions and Comments



# Wikimedia Medicine

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**WIKIMEDIA**  
MOVEMENT AFFILIATES

# MEDADM 8412: Improving Medical Communications through Wikipedia



## □ Wikipedia is

- The **5<sup>th</sup>** most **popular website** globally
- Reportedly used by over **70% of junior physicians**
- The location of **30,000 medical articles**, viewed over **10 million times/day**
- The **most popular healthcare site** by traffic views, followed closely by the NIH and Web MD

# Wikimedia Medicine

- Grading Criteria
  - Quality (COLUMNS; Rainbow)
  - Importance (ROW; PINK)
- Students are encouraged to select "bad" articles in hopes of improving their status
- Pheochromocytoma
  - Class C
  - Low to Mid Importance

## WikiProject Medicine assessment statistics

Medicine articles by quality and importance							
Quality	Importance						Total
	Top	High	Mid	Low	NA	???	
★ FA	10	14	23	18			65
★ FL		2	3	7			12
★ FM					61		61
⊕ GA	30	37	89	128			284
B	45	362	1,075	1,028		10	2,520
C	10	402	2,429	3,888	1	42	6,772
Start		209	4,319	12,617	3	85	17,233

- 1 Signs and symptoms
  - 1.1 Complications
    - 1.1.1 Cardiovascular system
    - 1.1.2 Nervous system
    - 1.1.3 Urinary system
- 2 Genetics
  - 2.1 Pediatric considerations
  - 2.2 Hereditary syndromes
  - 2.3 Other gene variants
- 3 Diagnosis
  - 3.1 Differential
  - 3.2 Biochemical evaluation
    - 3.2.1 Gold standard
    - 3.2.2 Alternative tests
    - 3.2.3 Biochemical phenotypes
  - 3.3 Tumor localization
    - 3.3.1 Anatomic imaging
    - 3.3.2 Functional imaging
- 4 Management
  - 4.1 Surgery
    - 4.1.1 Pre-operative management
      - 4.1.1.1 Alpha blockade
      - 4.1.1.2 Beta blockade
      - 4.1.1.3 Complications
      - 4.1.1.4 Controversy
    - 4.1.2 Perioperative fluid status
    - 4.1.3 Post-operative management
- 5 Metastatic Disease
  - 5.1 Diagnosis and Location
  - 5.2 Treatment
- 6 Prognosis
- 7 Epidemiology
- 8 History
- 9 Society and Culture
  - 9.1 Zebra Culture
  - 9.2 Support Groups and Recognition
  - 9.3 Media

# Current State of Pheochromocytoma

- Most recent table of contents (9/2020) for the Pheochromocytoma page
- Left (RED)
  - New sub sections not included prior to August 1<sup>st</sup>, 2020
- Right (GREEN)
  - Completely new headings not included prior to August 1<sup>st</sup>, 2020

# Current State of Pheochromocytoma

## Media [ edit ]

In July of 2012, an actual pheochromocytoma patient, Tannis Brown, former Vice-President of the PheoPara Troopers, was featured on the [Discovery Fit & Health](#) Network program *Diagnosis: Dead or Alive*.<sup>[189]</sup> The show highlighted her personal struggle with misdiagnosed disease as many physicians felt her episodic headaches and [hypertension](#) (high blood pressure) were related to stress.<sup>[190]</sup>

Apart from featuring real-life stories of pheochromocytoma patients, this rare tumor has also been featured on primetime medical television dramas as well. In the opening episode of the second season (S2: E1, [Acceptance](#)) of *House*, [Dr. Gregory House](#) ([Hugh Laurie](#)) consults on a death row inmate who is later discovered to have pheochromocytoma after he experiences unexplainable fits of rage that ended in murder.<sup>[191]</sup> However, this depiction of a pheochromocytoma patient is factually inaccurate and disturbing. The "adrenaline rush" felt in patients with functionally active tumors is unlikely (if ever) to have been reported to random bouts of violence.

In the seventh and eighth seasons of *Greys Anatomy*, series regular [Dr. Teddy Altman](#) ([Kim Raver](#)) finds herself married to a patient (Henry Burton, actor [Scott Foley](#)) due to his lack of medical insurance.<sup>[192]</sup> It is later revealed that he has a [Von Hippel-Lindau](#) (*VHL*) mutation that has resulted in a rare adrenal tumor known as pheochromocytoma. The several series arc was met with varying opinions from the rare disease community.<sup>[193]</sup> Then executive Director of the VHL Alliance was happy with the portrayal of a VHL patient in mainstream media, but pointed out that of the four scripts she knew of with a VHL patient, three involved a pheochromocytoma, which actually occurs in less than a fifth of all VHL patients.<sup>[194][195]</sup>

While no patient is actually featured in the episode, in the premier season of *Scrubs*, the resident physicians are questioned on rounds about the initial test of choice for a pheochromocytoma and the correct pre-operative treatment (which they incorrectly answered as an angiotensin-converting enzyme ([ACE](#)) inhibitor, but should be an [alpha-adrenoceptor blocker](#)).<sup>[196]</sup>

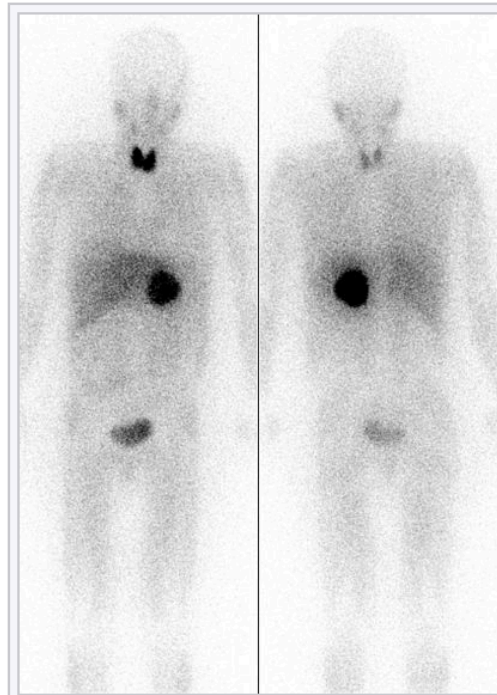
Finally, there are many personal stories shared on [YouTube](#) of patient journeys with this rare neuroendocrine tumor.



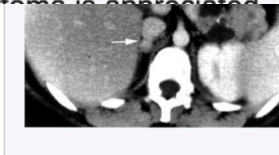
Scott Foley played fan-favorite Henry Burton on [Grey's Anatomy](#) in seasons 7 and 8. He portrayed a chronically ill patient with a [von Hippel-Lindau](#) (*VHL*) genetic variant and a pheochromocytoma



# Current State of Pheochromocytoma



MIBG Scintigraphy – the tumor is appreciated



A

A: Axial computed tomography (CT) scan

B: Minimally invasive laparoscopic surgery technique. The surgical team (screen left) work with instruments that are projected onto a screen within the operating room (screen right)

C: Robotic surgery technique. The lead surgeon (screen left) sits at the console, which is completely removed from the operating room. The robotic arms are assisted by other surgical staff



FDG PET – the tumor is appreciated as the dark structure

Disciplinary effort involving the endocrinologist and the patient pre-operatively. Communication between all of the above mentioned teams, a favorable outcome is achieved.

Currently, laparoscopic adrenalectomy (minimally invasive technique) is recommended. This approach also allows for the detection of metastatic disease.



Top: Purple lesions are metastatic disease detected with DOTATATE imaging.

Bottom: Same patient. Purple lesions are metastatic disease detected with FDG PET

# Pheo by the Numbers

453

Total Edits

1<sup>i</sup>

Student Editors

35.8K

Words Added

255<sup>i</sup>

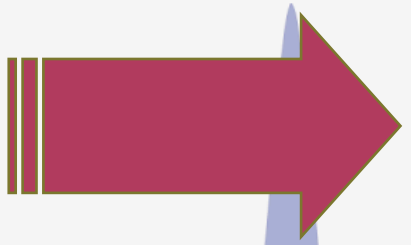
References Added

Articles E

15.5K

Article Views

8/28/20

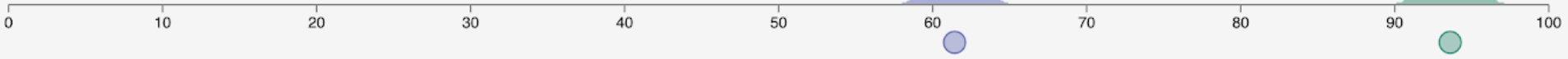


45K

Article Views

9/11/20

1  
before: 61.5  
after: 93.6



## Feedback

**This article has multiple issues.** Please help **improve it** or discuss these issues on the **talk page**. (*Learn how and when to remove [hide] these template messages*)



- This article **needs editing for compliance with Wikipedia's Manual of Style**. (*August 2020*)
- This article **is written like a manual or guidebook**. (*August 2020*)
- This article **needs more medical references for verification or relies too heavily on primary sources**. (*August 2020*)

Your suggestions for the editors of the article

Add Suggestion



# Capstone for Impact (CFI)

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## Capstone for Impact | CFI

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The Capstone for Impact (CFI) is a core graduation requirement. It is a longitudinal opportunity to apply medical research towards delivering a solution to an issue within a real-world setting, and requires sustained self-directed learning in an area of the student's passion. The capstone consists of a deliverable which varies according to the means by which the student pursues the capstone but which meets all criteria in the CFI milestone checklist. The CFI Approval Committee is listed above along with their contact information. **All CFI projects are to be supervised by a CFI Advisor of the students' choice. Please complete this [CFI Project Proposal Form](#) by February 15, 2020. Email Samiah Haque if you need more time.**

"...longitudinal opportunity...to deliver a solution that requires sustained self-directed learning in an area of the student's passion"

# Increasing Medical Student Interest & Exposure to Endocrine

- Designed a rotating two (2) year curriculum for Fellows
  - Teaching scripts
  - Effective feedback; giving and receiving from med students
  - Working to standardize grading procedures
- Developed a database of Endocrine Attendings research interests and clinic opportunities
- Created a short presentation for the M1 Endocrine Sequence



B	D	E
E-Mail	If "No," Please Specify how to Contact	Specific Interests in Endocrinology
sjoanna@med.umich.edu		neuroendocrinology, endocrine aspects of critical illness, hormo
meganhay@med.umich.edu		thyroid cancer outcomes/health services research
arothber@med.umich.edu	cc: Nicole Miller at npiazza@med.umich.edu	obesity, weight management, diabetes
wherman@med.umich.edu	copy to: hstites@med.umich.edu	diabetes
reinertr@med.umich.edu		diabetes, pancreatic islet biology (basic/translational science)
aturcu@umich.edu		adrenal physiology and pathology, biomarker development/mas

H	I	J
In General, Research Opportunities for Student?	Research Topic/Interests	Clinical/Benchwork/Both
yes, basic or clinical	pituitary, hormones and behavior,	Both
yes, outcomes/ HSR	thyroid cancer overdiagnosis and overtreatment	
yes	clinical research in weight loss/m	clinical research
yes	Clinical and health services research in diabetes incli	Clinical and health services research only
yes	comorbidities and simulation mod	
yes	pancreatic islet biology, glucagon	bench
yes	as in E	Both

F	G
Participate in Specialty Clinics? (FNA, Endo Onc, Bariatric Surgery, etc.)	Open to Student Joining in Clinic; Student Preference? (M3-4)
Yes - pituitary	Yes, after internal medicine core clerkship
Yes- thyroid cancer	Yes, but it depends on timing of projects
Yes - Obesity/Endo	Yes
	U-M medical students any level
no	yes, M3-4
Yes- adrenal clinic	yes

# Endocrine Faculty Mentors

- Google Sheet to the Department
  - Name, E-mail, and Preferred Contact
  - Specific Interests and Specialty Clinics
  - Research Opportunities (Clinical, Basic Science)
- Information is exported to Excel, "locked," and shared with the M1 class
- Will be updated on yearly basis

# ENROLL IN ADULT ENDOCRINE BRANCH M3/M4 CLINICAL ELECTIVE

- 4 Week Clinical Elective
  - ✓ Fulfills 1 of your (4!) required for graduation
- Inpatient Endocrine Consult Experience
- Outpatient Clinic Experience
- Highly flexible to fit your specific interests
- Access to multidisciplinary tumor boards and specialty clinics



- Endocrine Oncology Clinic: Adrenal and Thyroid Neoplasias
- Osteoporosis Clinic
- Post-Bariatric Surgery Clinic
- Podiatry Clinic: the Diabetic Foot
- Pregnancy and Diabetes Care
- FNA Clinic

## CAN'T WAIT FOR TWO YEARS?!

- ✓ Pick a Specialty
- ✓ Find a Mentor
- ✓ Develop a Project



- The Diabetes, Metabolism, and Endocrinology Faculty *want* to work with you
- Compiled a list of Faculty with willingness to have you shadow (M1) or see patients (M2-M4) in their clinics
- Available research projects within the department in need of medical students

Know Endocrinology is for you? Have a specific interest or project idea and don't know where to start?

- Endocrine Fellowship Director, Dr. Tobi Else is here to help!
- [telse@med.umich.edu](mailto:telse@med.umich.edu)

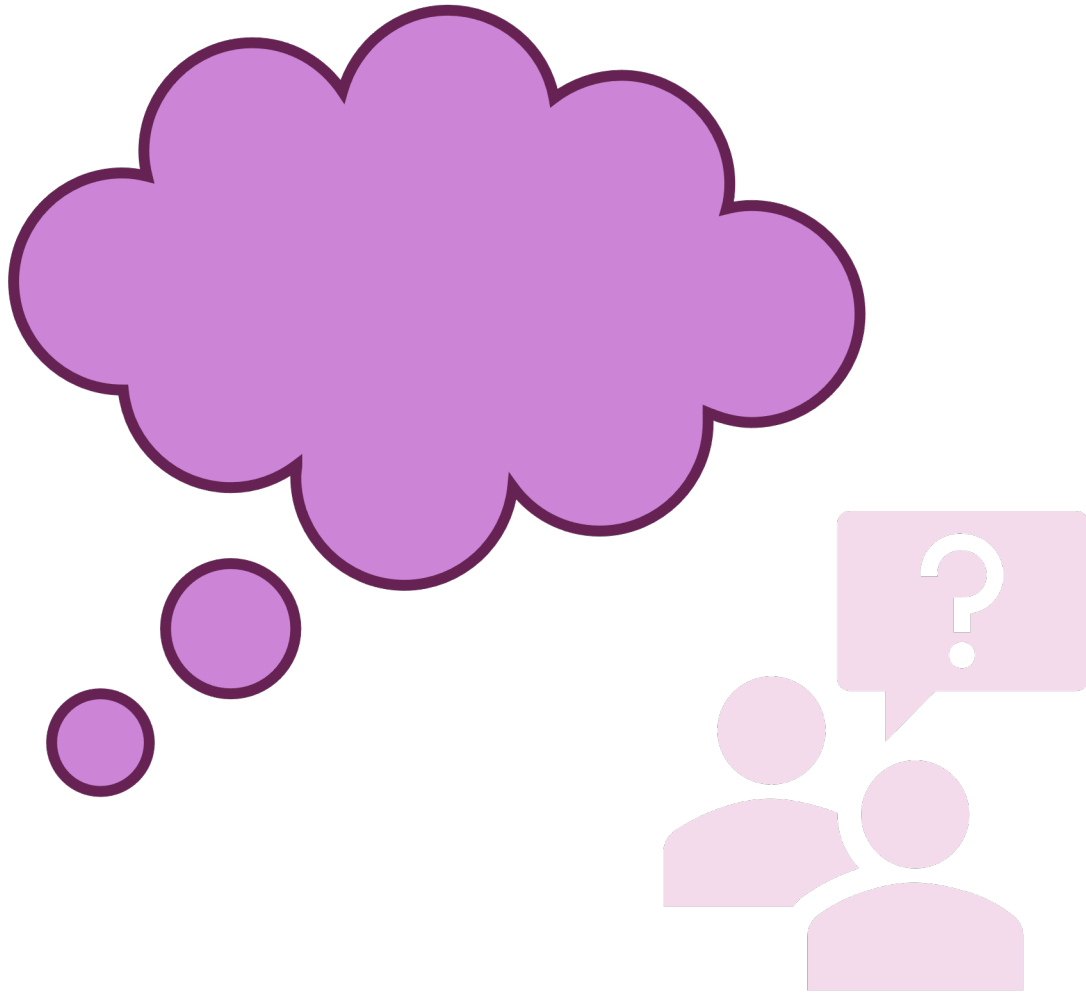


# Acknowledgments

- Dr. Daniel Shumer
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- Wikipedia and Capstone for Impact Team Leads here at Michigan



*Eunice Kennedy Shriver*  
National Institute of  
Child Health and  
Human Development



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# Questions?

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